

Title (en)
A METHOD OF PREPARING A CURABLE RESIN PARTICLES AND A FIBER REINFORCED POLYMER COMPOSITE PRODUCED THEREBY

Title (de)
VERFAHREN ZUR HERSTELLUNG EINER HÄRTBAREN HARZPARTIKEL UND EIN SO HERGESTELLTER FASERVERSTÄRKTER
POLYMERBUNDWERKSTOFF

Title (fr)
PROCÉDÉ DE PRÉPARATION D'UNE COMPOSITION DE RÉSINE DURCISSABLE ET LA COMPOSITE DE POLYMÈRE RENFORCÉ AINSI
OBTENUE

Publication
EP 2751173 A1 20140709 (EN)

Application
EP 12759805 A 20120821

Priority
• GB 201115168 A 20110902
• GB 201118194 A 20111021
• GB 2012052041 W 20120821

Abstract (en)
[origin: GB2494260A] The invention relates to methods and a novel powdered curable monomer which may be used to manufacture bulk polymers, adhesives and coatings composite materials with high percentage weight inclusions of particulate filler materials, more specifically to fibre reinforced polymer composite materials (1) with high percentage weight inclusions of particulate filler materials (4). The preferred particulate filler materials are carbon nanotubes or graphene. The method according to the invention allows greater than 0.1wt% of filler, preferably 10 40 wt% of carbon nanotubes or other high aspect ratio fillers to be incorporated in the resin matrix (3). The admixture is partially cured and then reduced (i.e. milled) to a powder preferably under controlled (low) temperature conditions before being applied to the fibre reinforcing plys (2). The powdered semi-cured mixture may be cured using a second crosslinking agent or stimulus: heat, UV, IR, electron beam, chemical agents or catalysts. The method of forming a 3-dimensional object is the additive layer process (ALM).

IPC 8 full level
C08J 3/12 (2006.01); **B29C 70/00** (2006.01); **B29C 70/02** (2006.01); **B29C 70/46** (2006.01); **B32B 5/24** (2006.01); **B32B 5/26** (2006.01); **C08J 3/20** (2006.01); **C08J 3/24** (2006.01); **C08J 5/04** (2006.01); **C08K 3/04** (2006.01); **C08K 7/24** (2006.01); **B29K 105/12** (2006.01)

CPC (source: EP GB US)
B29C 70/025 (2013.01 - EP GB US); **B29C 70/465** (2013.01 - EP GB US); **B32B 5/24** (2013.01 - EP US); **B32B 5/26** (2013.01 - EP US); **C08G 59/18** (2013.01 - GB); **C08J 3/12** (2013.01 - EP GB US); **C08J 3/20** (2013.01 - US); **C08J 3/24** (2013.01 - EP GB US); **C08J 5/04** (2013.01 - EP GB US); **C08J 5/243** (2021.05 - EP GB US); **C08J 7/12** (2013.01 - GB); **C08J 7/16** (2013.01 - GB); **C08J 7/18** (2013.01 - GB); **C08K 3/04** (2013.01 - US); **C08K 3/041** (2017.05 - US); **C08K 3/042** (2017.05 - US); **C08K 7/24** (2013.01 - US); **B29K 2105/124** (2013.01 - EP US); **B32B 2255/02** (2013.01 - EP US); **B32B 2255/24** (2013.01 - EP US); **C08J 2363/00** (2013.01 - EP US); **C08J 2367/06** (2013.01 - EP US); **C08J 2375/04** (2013.01 - EP US); **C08J 2379/08** (2013.01 - EP US); **C08K 2201/011** (2013.01 - US); **C08K 2201/016** (2013.01 - EP US)

Cited by
CN108641551A

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
GB 201214876 D0 20121003; **GB 2494260 A 20130306**; **GB 2494260 B 20141126**; AU 2012300600 A1 20140313;
AU 2012300600 B2 20140911; EP 2751173 A1 20140709; EP 2751173 B1 20200205; US 10023702 B2 20180717;
US 2014235759 A1 20140821; WO 2013030536 A1 20130307

DOCDB simple family (application)
GB 201214876 A 20120821; AU 2012300600 A 20120821; EP 12759805 A 20120821; GB 2012052041 W 20120821;
US 201214342560 A 20120821